

## ABSTRACT

A illumination system according to the present invention is a illumination system 100 comprising: a first reflecting mirror 20a arranged on the rear side of a light-emitting portion 11 of the illumination system 100 including an arc tube 10; and a second reflecting mirror 30a arranged on the front side of the light-emitting portion 11 of an optical system. The system is arranged so that the diameter  $D1$  on a reflecting surface 50 of the first reflecting mirror 20a corresponding to the available marginal light emitted from the light-emitting portion 11 to the rear side of the illumination system is larger than the diameter  $d1$  of the outer surface of the second reflecting mirror 30a and the diameter  $d1$  of the outer surface of the second reflecting mirror 30a is set to a size within the light  $L1$  and  $L2$  as the available marginal light reflected by the first reflecting mirror 20a, a reflecting surface 60 of the second reflecting mirror 30a surrounds about half of the front side of the light-emitting portion 11, and the light emitted from the center of the light-emitting portion 11 and incident on the second reflecting mirror 30a agrees with the normal of the second reflecting mirror 30a.